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REMARKS/ARGUMENTS

In the outstanding office action, claims 2-4, 12, 15-18, and 28 were rejected under 35 USC 112. Claim 1 has been amended to point out that the hot swap transistor has a control terminal and that the hot swap transistor is turned on "by changing a voltage on the control terminal at a controlled rate" (see page 16, lines 17-22 of the application). Claim 2 has been amended to provide that controlled rate is a rate providing a controlled current through the hot swap transistor (see page 6, lines 12 to 14 – the predetermined rate of decrease in the drain voltage in the hot swap transistor (6 volts per millisecond in the example) provides the same predetermined rate of voltage increase across the pulse width modulation control circuit). Claim 3 has been amended to provide that the controlled rate is a rate providing a controlled current through the hot swap transistor (see page 16, lines 17 to 22). Claim 4 has been amended to provide that the predetermined rate of voltage increase across the pulse width modulation control circuit, or a rate providing a controlled current through the hot swap transistor, whichever limit occurs first (See page 20, lines 2-7). Claims 15-18 have been similarly amended and claims 28 and 29 have been cancelled to reduce the number of claims presented. Claim 12 has been amended to provide that the at least one switching transistor is in the integrated circuit (see the examples in Figures 2 and 4).

The undersigned wants to thank the examiner for the productive interview with the inventor and the undersigned held on June 18. The purpose of the interview was to obtain a common understanding of the prior art and the present invention. In that interview, the prior art and switching regulators and hot swap circuits in general were discussed. The examiner indicated, in essence, that the claims did not adequately distinguish the purpose or function of the various elements over the prior art, and that merely giving the elements certain labels did not adequately distinguish over the prior art. No agreement was sought or reached with respect to any specific amendments or the allowability of any amended claims. As a result of the interview, certain claims have been carefully amended to better define the purpose or function of the elements to clearly distinguish those elements from other elements in the prior art.

In accordance with the foregoing, claim 1 has been amended to change "pulse width modulation switching regulator controller circuit" to simply "pulse width modulation circuit" (See Figures 2 and 3a for exemplary PWM circuits), and has been further amended to define the pulse width modulation circuit as "including a pulse width modulation control circuit coupled to at least one switching transistor for switching the switching transistor on and off at a frequency determined by the pulse width modulation control circuit" (Figures 2 and 4 schematically showing two switching transistors QH and QL, and Figure 3a showing three switching transistors, QH, QH and QL in an exemplary embodiment. The specific design of the pulse width modulation circuit used is not part of the invention).

Claim 1 has also been amended to require "the hot swap circuit, when the hot swap circuit and the series combination of the hot swap transistor and the pulse width modulation circuit are coupled to a source of power having a power source voltage, turning on the hot swap transistor <u>by changing a voltage on the control terminal at a controlled rate</u> in spite of the sudden application of power to the hot swappable pulse width modulation switching regulator controller,

PAGE 12/15 * RCVD AT 8/24/2006 6:13:26 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/16 * DNIS:2738300 * CSID:7145573347 * DURATION (mm-ss):09-52

and maintaining the hot swap transistor on until the hot swappable pulse width modulation switching regulator controller is no longer coupled to the source of power having the power source voltage". This distinguishes the hot swap transistor from a switching transistor, such as a switching transistor that is part of the pulse width modulation circuit.

Turning now to the claim rejections, claims 1-4, 7-11, 15-18, 21-25, 28 and 29 were rejected under 35 USC 102(b) as anticipated by Patel, the examiner equating the claimed hot swap transistor to transistor Q1 of Patel. Note however that in claim 1 as now amended, the "hot swap transistor is turned on by changing a voltage on the control terminal at a controlled rate" and remains on until the power source voltage is lost. Transistor Q1 of Patel, however, is a switching transistor constantly turned on and off during the operation of the circuit by drive circuit 901 (see the square wave 906 in Figure 9 and the paragraph in col., 12, starting on line 13 of Patel). It is not turned on at a controlled rate, and is not maintained on until the power source voltage is lost. Transistor Q1 is thus part of the switching regulator and not a hot swap transistor. Similarly, circuit 901 is not a hot swap circuit that turns on the hot swap transistor by changing a voltage on the control terminal at a controlled rate and that maintains the transistor on until the power source voltage is lost, but instead constantly switches transistor Q1 during operation of the circuit (again see the square wave 906 in Figure 9 and the paragraph in col., 12, starting on line 13 of Patel). Accordingly reconsideration of this rejection is requested.

With respect to the rejection of claim 15, this claim has been amended to provide "turning on the hot swap transistor by changing the voltage on the control terminal at a controlled rate, and maintaining the hot swap transistor on until the hot swap circuit and the series combination of the hot swap transistor and the pulse width modulation switching regulator controller are no longer coupled to a source of power". As pointed out above with respect to claim 1, in Patel the transistor Q1 of Patel is part of the pulse width modulation switching regulator controller, and is constantly switched on and off during the normal operation of the regulator. It is not turned on by changing the voltage on the control terminal at a controlled rate, nor maintained on until the hot swap circuit and the series combination of the hot swap transistor and the pulse width modulation switching regulator controller are no longer coupled to a source of power. Accordingly reconsideration of this rejection is also requested.

Claims 15-18, 21, 22 and 28 were rejected under 35 USC 102(b) on Boylan. As pointed out above, this claim has been amended to provide "turning on the hot swap transistor by changing the voltage on the control terminal at a controlled rate, and maintaining the hot swap transistor on until the hot swap circuit and the series combination of the hot swap transistor and the pulse width modulation switching regulator controller are no longer coupled to a source of power". Transistor 12 of Boylan is part of the pulse width modulation switching regulator controller (PWM), and is constantly switched on and off during the normal operation of the regulator. It is not turned on by changing the voltage on the control terminal at a controlled rate, nor maintained on until the hot swap circuit and the series combination of the hot swap transistor and the pulse width modulation switching regulator controller are no longer coupled to a source of power. Accordingly reconsideration of this rejection is also requested.

The claims dependent on claims 1 and 15 are also believed allowable as each depending on a now allowable independent claim and as providing greater novelty and specificity to the claimed combination.

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CONCLUSION

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 08/24/2006

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